

Appl. No. 10/774,136
Amdt. dated April 12, 2005
Reply to Office Action of February 2, 2005

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Please amend the specification at the paragraphs indicated as follows:

[0103] As the fabric web 72 leaves the adhesive applying section, it enters the cutting or slitting section 80 where the elongated web of fabric is cut into a plurality of substantially contiguous side-by-side longitudinally extending strips 220 with suitable cutters 222. As seen in FIG. 14, normally the fabric would simply be cut with conventional roll cutters 222 rotatably mounted in laterally spaced relation on a common support beam 224 for cutting engagement with the web of material as it crosses over a first 226 of two support rollers 226 and 228. The support beam 224 is pneumatically mounted so that the pressure of the roll cutters against the web of material and back up support roller 228 can be regulated. If the web of material is a woven fabric, however, roll cutters might leave frayed edges so heat would then be applied along the cut edges to prevent fraying. In the alternative, ultrasonic cutters 230 could be used which would avoid fraying. While both types of cutters are illustrated in FIG. 14, it should be understood that only the ultrasonic or the roll cutter would be necessary, and not both. A vacuum line 232 is disposed adjacent to the support roller 226 so as to draw any loose strands, threads, or scrap fabric and remove them from the vane/strip preparation station. It should be appreciated that the web of fabric material is cut between associated beads of adhesive on opposite surfaces, as seen in FIG. 16, so that the resulting strips 220 of material formed from the web have one line or bead of adhesive in a marginal zone 234 adjacent one side edge of the strip on one face of the strip and a second line or bead of adhesive in a marginal zone 236 adjacent the opposite side edge and on the opposite face.

[0104] It will be appreciated that the web 72 of material leaving the cutting or slitting station 80 is, therefore, in a plurality of substantially contiguous side-by-side strips and these strips are fed to the take-up roller section 82. The take-up roller section is possibly best seen in FIGS. 5, 14, and 18 through 28, and can be seen to include a transport cart 85 on which the drum 86 is disposed for receiving and wrapping the strips of material therearound. The drum is rotatably mounted on the cart and driven with a motor 240 in synchronized speed with the speed at which the fabric web passes through the vane/strip preparation station. The strips 220 are, therefore, wound on the drum but in a unique manner. If the strips were wound on the drum in a straight line as they leave the cutting or slitting section 80, the beads of adhesive 210 and 216 on overlying layers on the drum will be aligned with corresponding beads on adjacent layers thereby forming an uneven surface due to the fact that the beads of adhesive add thickness to the strips along the side edges of the strips and these thickened portions of the strips would all be aligned and stacked upon each other.

[0105] In order to obtain a relatively even rolled surface, the web of side-by-side strips 220 of material are continuously shifted laterally and reciprocally as a unit as they are fed to the take-up drum 86 through the use of a diverter system 239. The diverter system is mounted on the main frame 100 of the vane/strip preparation station with the diverter system probably being best seen in FIGS. 14 and 18 through 23. FIG. 18 is a top plan view showing the strips 220 as they are being wrapped on the take-up drum of the transfer cart which functions as a support frame for the take-up drum. Portions of

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the strips emanating from the cutting or slitting section 80 of the vane/strip preparation station having been removed for clarity. A traverse rod 241 is mounted on the main frame 100 in bearings 242 so as to be laterally slidable within the bearings. The traverse rod has a pair of spaced collars 244 at one end in alignment and engagement with an eccentric 246 mounted on the output shaft 248 of a drive mechanism in the form of an electric motor 250. As the motor rotates the eccentric, it sequentially applies lateral pressure to the collars 244 thereby shifting the traverse rod 241 laterally back and forth along its longitudinal axis. The traverse rod supports a pair of traverse arms 252 that extend upwardly and toward the transfer cart 85 and have a transverse comb 254 mounted on their distal ends. The traverse comb has a plurality of frictionally fixed circular fingers 256 that are mounted eccentrically on a transverse bar 258 with the circular fingers being adapted to slidably fit into the web 72 of fabric between the strips 220 that have been previously cut therein. The circular fingers are mounted eccentrically so that they can be manually rotated between an infinite number of fixed positions, by overcoming their frictional seating, relative to the transverse bar to change their circumferential position so as to vary the extent to which they extend through the fabric web of material for purposes of varying the degree to which they guide the fabric thereby.

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